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NATURAL GAS:

How to Get It,

AND

How to Use It as Fuel.

PHILADELPHIA COMPANY,

PITTSBURGH, PA.

AUGUST, 1886.

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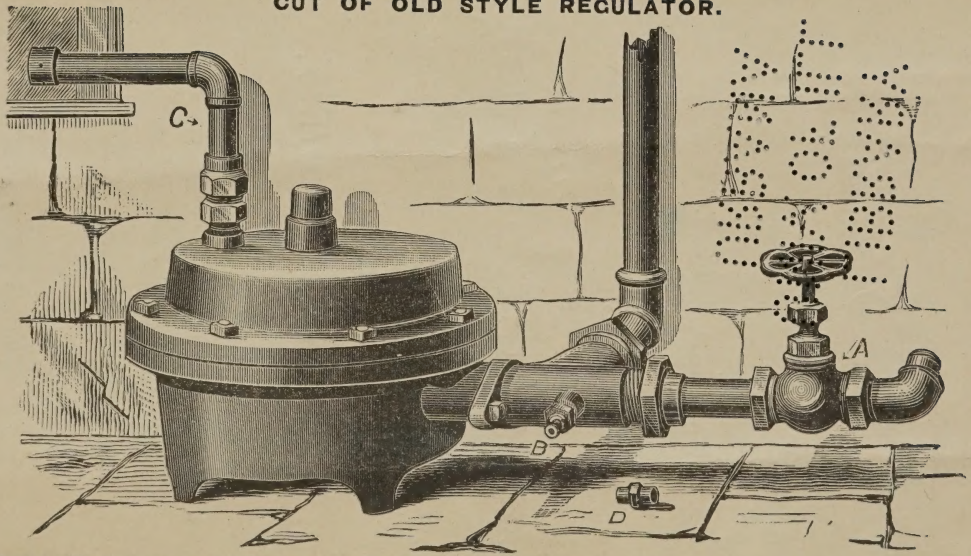
CUT OF OLD STYLE REGULATOR.

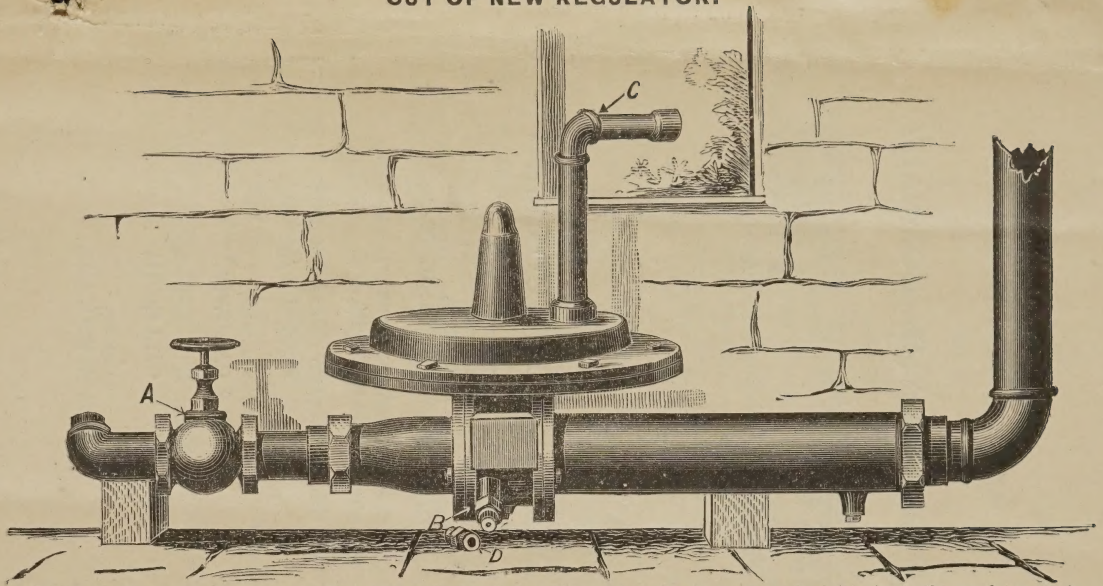


The above illustration is a cut of the Automatic Regulating Valve. A, is the stop cock on the inlet pipe to the regulator. B, is the starting valve. C, the escape from the regulator. D, the nut or cap screwed over B.

In case of any accident to the pipes in your house, shut off the gas by turning the stop cock (A,) and notify this Company at their office in the District in which you reside. (see page 6,) also notify your plumber at once to repair the leak or break.

In case there should be a break in the street main causing a stoppage of gas, SHUT OFF ALL THE STOP COCKS at your fix[illegible] places or stoves; then when the gas is turned on again, by unscrewing D, and pulling out the pin B, the diaphram in the regulator wi[illegible] raise and start the valve in motion. If you do not like to trust to this plan, then shut off the gas at the stop cock (A,) and send word [illegible] the nearest office of the Company.

CUT OF NEW REGULATOR.



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In case there should be a break in the street main causing a stoppage of gas, SHUT OFF ALL THE STOP COCKS at your fire-places or Stoves; then when the gas is turned on again, by unscrewing D, and pulling out the pin B, the diaphram in the regulator will raise and start the valve in motion. If you do not like to trust to this plan, then shut off the gas at the stop cock (A,) and send word to the nearest office of the Company.

BOARD OF DIRECTORS

—OF—

PHILADELPHIA COMPANY.

GEORGE WESTINGHOUSE, JR.
CHARLES PAINE.
ROBERT PITCAIRN.
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JOHN CALDWELL.
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—OF—

PHILADELPHIA COMPANY.

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GEORGE WESTINGHOUSE, JR.

VICE PRESIDENT AND GENERAL MANAGER,
CHARLES PAINE.

SECRETARY AND GENERAL AGENT,
J. R. McGINLEY.

TREASURER,
JOHN CALDWELL.

GENERAL SUPERINTENDENT,
T. A. GILLESPIE,

AUDITOR,
HORACE S. CLARK.

IN CASE OF ACCIDENT.

The smarting from burns is immediately relieved by the application of cotton batting soaked in oil. All stations are required to keep a supply of oil and cotton batting.

THE SURGEONS of the Philadelphia Company will take charge of any cases of injury, from burning or explosion, for which the Company may be responsible, and should be sent for in case of accident to employes or others. Their addresses and districts are given below:

DR. C. F. BINGAMAN, No. 922 Penn Avenue, is in charge of that portion of the city lying between the Allegheny and Monongahela rivers, from the Point to Eleventh Street, on Penn and Liberty Avenues, extending to Minersville in the Hill District, and to Soho on Second Avenue.

DR. J. S. WALTERS, No. 6360 Penn Avenue, East Liberty; for the East End District, extending to Gilmore Station; in Penn Avenue to Forty-fifth Street, and in Fifth Avenue to Soho Street.

DR. R. M. SANDS, Forty-third and Butler Streets; from Eleventh Street on Penn Avenue, to Haights Run and Sandy Creek.

DR. W. T. ENGLISH, No. 75 Carson Street; for the South Side District, and extending to Homestead.

DR. D. F. MCINTOSH, 1318 Middle Street, Sharpsburg; from Willow Grove to Hoboken.

DR. GEO. M. GETZE, Tarentum, Pa.; from Hoboken to Tarentum.

DR. E. W. DEAN, Braddock, Pa.; for Braddock and vicinity.

LIST OF OFFICES AND STATIONS.

Station A, at Murrysville.
" B, " Verner.
" C, " Telford.
" D, " Sandy Creek.
" E, " Hoboken.
" F, " Torentum.
" G, " Springdale.
" H, " Etna.
" I, " Willow Grove.
" J, " Corner A. V. R. R. and Thirty-sixth Street.
" K, " Gilmore.
" L, " Corner Fifth and Frankstown Avenues.
" M, " Keystone Mill, Second Avenue.
" N, " Dick Farm, Lyons Run.
" O, " Bessemer.
" P, " 6243 Penn Avenue, East End.
" Q, " Thirty-fourth Street, South Side.
" R, " First Street, South Side.
City Office, 935 Penn Avenue.

TELEPHONE NUMBERS.

General Office, 935 Penn Avenue, - No. 744
General Superintendent's Office, - - No. 603
East End Office, - - - - E. E., No. 108
South Side Office, - - - - S. S., No. 87

At all of these Stations representatives of the Company are in constant attendance, who will give immediate attention to applications for gas or to complaints.

The Philadelphia Company will be much obliged by immediate notice to any of these offices, of any leaks discovered in the streets or else where. Telephone from any part of the city.

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Map of Philadelphia Company's Main Pipe Lines

APRIL 1886.

The Armor Lith Co Limited Pittsburgh, Pa.

Note: Dotted lines represent cast iron pipes. Full lines represent wrought iron pipes.

Distance from Murraysville to Pittsburgh 22 Miles.
" " Tarentum " " 24 "

ABOUT NATURAL GAS.

How long natural gas has been used cannot be told; the Chinese have been using it for centuries, getting their supplies from wells said to be 3,000 feet deep, piping it through bamboo and burning it with clay burners. In Persia its fires have for ages been symbols of worship. The "*Fontaine Ardente*" of the Gauls, near Grenoble, in France, was burning in the time of Julius Cæsar and has been flaming ever since.

In this country, reference to springs yielding gas are found in the records of early travels, especially in those of the Jesuit fathers. The gas well at Fredonia, N. Y., is believed to be the first whose product was employed commercially. This was about 1821, and before gas was found in the oil country. It was used at Olean about fifteen years ago, and shortly afterwards in Tidioute and other oil towns. Spang, Chalfant & Co. were the first manufacturers to pipe gas to their works and use it as a fuel, in this county. Their use of it began in 1875, the well being at Lardentown, Butler county, and they still use the product of that well.

Its first use in iron-working was at the Leechburg, Pa., works of Messrs. Rogers & Burchfield, about 1873. In glass-making, the Rochester Tumbler Works, at Rochester, Pa., were probably the pioneers, and in plate glass Mr. J. B. Ford, at the Pittsburgh Plate Glass Works, at Creighton, Pa., in 1883. Salt was boiled with it at East Liverpool, Ohio, in 1860, and it was tried later in burning pottery in the same village. In 1874, or earlier, Mr. Peter Neff began the manufacture of lamp-black from gas at Gambier, Ohio.

The well struck near Homewood, by Mr. George Westinghouse, Jr., was the first within the limits of Pittsburgh.

The gas as taken from the mains is absolutely dry, containing no water. Its specific gravity is a little more than half that of air. The explosive force of natural gas is less than that of coal gas, volume for volume. Natural gas explodes only when mixed with nine volumes of air, while coal gas explodes with but six volumes. Consumed by an Argand burner, at the rate of five cubic feet per hour, the illuminating power of natural gas is that of 8.52 sperm candles.

Careful experiments show that the heating capacity of 1,000 feet of gas is equal to 82 pounds of Pittsburgh coal, under a good boiler. The entire value of gas can be availed of, because it can be used from the moment it is lighted, and extinguished the instant the work is done; whereas, with coal, we must burn a large quantity before it is ready to be of service, and we have a large quantity left at the end of the job, which must be burned uselessly; so that in practice 1,000 feet of gas is equal to much more than a hundred weight of coal.

In the vicinity of Pittsburgh natural gas is found at a depth corresponding with 1,400 feet below the Union Station, and 650 below the level of the sea. It stands at about 500 pounds pressure to the square inch at the wells, when they are closed against any escape.

Mr. C. A. Ashburner, of the State Geological Survey, describes the position of the strata as follows:

"Although the horizontal structure of the oil and gas regions is comparatively simple, the columnar structure as revealed both by the study of the outcropping rocks and the records and drillings of oil wells, is not so easily understood, and in special areas is more or less complex. The rocks which have so far been found to produce natural gas are found in a vertical range of about 3,000 feet of Carboniferous and Devonian strata, extending from the Mahoning sandstone at the base of the Lower Barren coal measures, which is on an average about 500 feet below the Pittsburgh coal bed, down to the Smethport oil sand in McKean county, which is 360 feet below the great Bradford oil sand of that region. The principal gas-horizons are (*a*), the probable representative of the Venango first-oil sand at Pittsburgh, which is from 1,800 to 1,850 feet below the Pittsburgh coal bed, and contained, as I believe, in the Catskill formation No. IX.; (*b*), the Sheffield gas sand, which appears to be the lowest oil and gas sand in Warren county—the horizon of this sand is about 800 feet above the bottom of the interval of 3,000 feet—and (*c*), the Bradford oil sand, which occurs 1,775 feet below the base of the Pottsville conglomerate, which is the lowest member of the Lower productive coal measures. The Sheffield and Bradford sands are undoubtedly of Chemung age.

While most of the largest gas wells which have been drilled in Pennsylvania have obtained gas from these three horizons, yet gas

in commercial quantities is not exclusively confined to them. Between the Mahoning sandstone as the top limit and the Smethport oil sand as the bottom limit, about 10 (more or less) prominent sand beds have been found which produce petroleum, and each one of these sand beds has been found to contain gas in greater or less quantity, nor is it possible to say that the gas is confined exclusively to these definite sand-horizons, for sand beds having only a local occurrence, but included within the rock interval of 3,000 feet may contain gas."

The average composition of Pittsburgh natural gas is as follows, according to Mr. S. A. Ford, the chemist:

	Per Cent.
Carbonic Acid	.6
Carbonic Oxide	.6
Oxygen	.8
Olefiant Gas	1.0
Ethylic Hydride	5.
Marsh Gas	67.
Hydrogen	22.
Nitrogen	3.
	100.

THE PHILADELPHIA COMPANY.

The Philadelphia Company was organized under a special act of incorporation, May 24, 1884. Its growth since has perhaps been unequaled by any similar corporation in the world. It now owns 54,000 acres of gas-producing territory, 49 producing wells, and it is now supplying gas to 5,000 dwellings in the two cities and vicinity; and with the wells that can be drilled on its territory, can insure an ample supply of gas for years to come.

Having twelve independent lines of pipe from the wells to the city, the use of any one of which can be discontinued without interfering with the others, insures a constant supply of gas; an invaluable security for consumers, when a failure of supply on one day per month may occasion a loss in workmen's wages, profits, &c., equal to the monthly sum paid for gas.

The large pipes form an immense reservoir of great value in maintaining a constant pressure. The large pipes laid this year will admit of a further reduction of the pressure within the city limits, and a consequent increase of the capacity of the lines from the wells.

All main lines are provided with escape pipes, and safety devices of the most approved form. Every precaution that can be suggested for safety is taken advantage of, with a consequent freedom from accidents and interruptions.

There are twenty stations with a force of forty men, who keep constant watch over the lines and pressures. These twenty stations are in telephonic communication with the main office, where a General Superintendent directs all operations.

The Philadelphia Company will negotiate for and procure suitable sites for manufacturing purposes, advantageously located with reference to a permanent supply of gas, and shipping facilities.

The supply of gas for residences will be made a specialty, and the necessary mains and connections for the streets not yet supplied will be laid as speedily as possible, consistent with safety.

Automatic regulators, which maintain a constant safe pressure in the service pipes, are put in by the Philadelphia Company at each dwelling. These are so contrived that if the gas is shut off in the main pipe they will instantly shut off all communication with the dwelling and will not open again until every stop cock in the house has been closed.

It is the intention of the Company that no accidents shall occur which can be prevented, and that no interruptions of service shall result which prudence can avert, or which can be avoided by the utmost vigilance, or by the use of the most approved appliances, however costly.

SOME ADVANTAGES OF GAS.

Cleanliness of person and of the house is one of the blessings secured by the substitution of gas for coal; no dust attends upon a gas fire; the curtains, carpets, ceilings, paper hangings and other decorations are wholly unsoiled, where gas is properly used; resulting in an enormous saving in washing, in wear and tear and in renewals.

Uniformity of Temperature may be perfectly secured, ensuring freedom from colds and from other complaints due to alternations of heat and cold. In the chambers of the sick, of the aged, or of others in feeble health, the gas fire may be lighted noiselessly and regulated exactly according to the wishes of the occupant; never too hot; never too cold.

Convenience. No cellar to be filled with dusty coal; no burdened back in carrying it up stairs; no search for kindlings when a fire is wanted; only the lighting of a match and the turning of a cock—behold a fire.

The gas is delivered to the fireplaces without noise or dirt; it does not need to be swept after; it does not change price from strikes of miners, nor from railroad blockades, nor from other interruptions; it is always at hand.

The use of gas allows people who have to rise early at least half an hour more sleep, owing to the fact that there is no delay in lighting fires. The Philadelphia Company thus distributes 5,000 extra hours of sleep to its customers.

When "only a spark of fire" is wanted, the amount can be measured to a nicety; the gas can be shut off the instant the kettle boils or the iron is hot, without overheating of the room. So that the gas is not only better than anything else for cold weather, but in hot weather also.

AS TO COST.

When all the advantages, conveniences and economies which are obtained by the use of natural gas are taken into account, the price at which it is sold is astonishingly low.

At present the careful and economical use of gas is not understood; the methods of burning it require it to be improved before any exact measurement of the quantity used will be satisfactory to the general consumer.

As it is, the Philadelphia Company undertakes to keep the house warmer than it has ever been kept before, at about the same cost.

With coal, the dirt and trouble of occasional fires in the parlor and chambers cause them to be postponed in early Autumn and discontinued in early Spring, while the ever-ready gas fire cheers the chilly hours without trouble and without extra charge. Gas is indeed a luxury for rich or poor.

An economical use of gas will insure low prices in the future, and economical experiments will be of advantage to consumers when the gas is scarcer, and it is sold by measurement.

Rates are fixed for the whole of a house only, based on the space to be heated or service to be required. The cost of putting in the service line and regulator and maintenance, is the same for all or for a part of the house. Rate for part of a house would necessarily be proportionately much higher than for the whole, if such a rate could be made; without a measurement of the quantity of gas supplied, such a rate would not be satisfactory to the consumer nor safe for the Company.

The cost of any service line depends on the distance traversed and the character of work to be done from the curb. The line will be carried free of cost to the curb by the Company.

The cost of setting a regulator is $5.00. The regulator is furnished free and remains the property of the Company.

COMPARED WITH COAL.

The price of gas cannot be fairly compared with that of coal, for the cost of coal is too variable and too much subject to the peculiarities of the individuals who use it. Two houses, with the same number of rooms in each, and the same number of persons in the rooms, will have a difference of from 25 per cent. to 50 per cent. in the size of the coal bills. One family will spend much more than the other, partly because of differences in their temperaments.

It would be impossible for the Company to find the number in each family supplied, and to learn the habits of each family as to the burning of fuel. There are too many thousands of families connected with the lines of the Philadelphia Company for any such investigation.

When coal is used many persons economise at the expense of some discomfort; not lighting fires, sometimes, even when needed.

We expect customers to use fires wherever they may be necessary.

SPECIAL INDUCEMENTS.

Householders who contemplate adopting the gas fuel will find it decidedly to their advantage to make application for estimates and arrange for their contract and plumbing work early in the summer. As the fall season approaches there is usually a great rush of applications for service connections. This Company was considerably embarrassed last fall by the numerous applications that were received late in the season, rendering it impossible to meet the demands for service connections.

During the early part of the season, service connections can be put in promptly, while our force is not pressed for time; and plumbers will do their work better and cheaper when not rushed with work. We therefore offer as a SPECIAL INDUCEMENT to those who will contract for their yearly householders' supply during the summer months, the use of the gas without charge until September 1, 1886.

GET A GOOD PLUMBER.

It is very important that the plumbing work connected with the natural gas service should be carefully and skillfully done. Consumers should employ only prudent, experienced plumbers, who will do honest work. Large pipes are the best. Galvanized fittings only should be used. Wherever it is possible, pipes should be put up flues, and under no consideration should they be placed inside of partitions or cupboards. A leaky joint may allow gas to accumulate unnoticed for days, and when it comes in contact with a flame, an explosion will follow. Stop cocks should not be placed between floors and ceilings, where they may leak without detection for some time, and where they are difficult to get at in the event of repairs becoming needful. Pipes had better be directly under the grate, with an extension bar to the outside of the fender, where the key can be attached when required. No cement joints will be permitted. Pipes must stand a pressure of ten pounds to the inch.

This Company is not, neither will it permit its employes to be, pecuniarily interested in any plumbing establishment. First-class work will be required by the inspectors, without regard to who may have done the plumbing.

To Make Everything Safe have all holes around any pipes which enter the cellar carefully stopped with cement on outside and inside. Tamp the earth around water pipes and sewers very firmly to prevent any leaking gas from following the pipes, as it may do if the earth is loose around them.

GENERAL DIRECTIONS FOR BURNING NATURAL GAS.

To Start a Fire: Before turning on the gas, place a *flame* on the fire-brick, or close to the burners; then turn the gas on slowly, taking care that the flame is not extinguished. If the gas is turned on suddenly with full force, it may blow out the flame. If this occurs, or if the flame is extinguished from any cause, shut off the gas and wait a moment for the gas that has escaped to blow away, before approaching another flame to the fireplace.

A taper is the best for lighting gas fires, because it leaves no ashes behind and rarely blows out.

When the gas is turned off, as at night, leave the doors of the stove or furnace, or the dampers open, so that any gas that may escape from an imperfect fitting will be blown up the chimney.

Where there is imperfect combustion, the gas either goes up the flue unburned or out into the room, where it fastens upon furniture, wall paper and curtains, and forms a greasy deposit, which is not particularly injurious, but it should not be, for it can be easily and surely prevented. Burners must be examined by a good plumber, and a proper mixture of gas and air ensured.

There are complaints that furniture is warped and cracked by the "dry heat" of gas. This heat is not drier than any other to which the vapor of water has not been added; but a higher temperature is constantly maintained with gas than with any other fuel, for it does not require attention to feed the fire; the same temperature maintained in any other way would have the same effect. It is always best to evaporate water at the fire, allowing the vapor to mingle with the air of the room; it does no good if the vapor escapes up the chimney, as many permit it to do.

In case a coal fire is wanted in the stove or fireplace, the supply of gas failing, (which might occur from necessary repairs or alterations

to the main pipes,) remove the loose fire-brick or crucible in the fireplace. If the burners can be readily removed, displace them; but if they cannot, put the coal in over them; this fire can be burned for several hours without damage to the fixtures. The perforations in the burners can be cleaned out by allowing the gas to blow through them for a moment or two. Keep the gas turned off outside the regulator until the coal fires are all extinguished and the burners are cool. New burners must be put in promptly, if the old ones are burned from long exposure to coal fire.

When the escape of gas is discovered in a cellar or elsewhere, *open the windows* to let it escape; avoid lighting it by any flame; as the gas is lighter than air it will rise to the top of the room. For this reason *open the windows from the top.*

Do not hunt a leak with a light. When the leak is found in this way it generally causes an explosion. Get the location of your regulator and of valve A (see cut of Regulator) fixed in your mind, and shut off the gas by screwing down the valve A in the dark; if you don't feel like trying this plan, put out all fires and lights, open the windows and send word to the Company's office, (see page 6) or to your plumber.

REGULATION OF PRESSURE.

The Philadelphia Company carries from one to two pounds pressure in its low pressure main lines, and reduces the same at each house connection by a regulator provided at the Company's expense. This regulator has an automatic cut-off, and in case the gas is obstructed in the main line or cut off by a break, and afterwards turned on, it cannot enter the consumer's pipe until the regulator is readjusted, which requires that the stop cocks at all the fireplaces shall have been closed.

The great advantage of this system is that it prevents the escape of gas into the house at night, after it has been temporarily shut off.

The individual regulator system is costlier to the Company than the tank plan, but it is far safer to the consumer.

INSTRUCTIONS BY FIRE MARSHAL.

OFFICE OF THE BOARD OF FIRE UNDERWRITERS,
PITTSBURGH, PA., April 1st, 1886.

NOTICE TO GAS FITTERS.

When natural gas is to be introduced into dwellings, stores, offices, etc., the following rules must be observed by the parties doing the fitting work:

All pipes must be tested by the gas company's inspector, with mercury column to ten (10) pounds pressure, from end of line where connection is made, to end of pipes under grates, stoves, etc.

The fitter should have his pump on and see that the pipes are perfectly tight before sending for the inspector.

The ends of pipes under grates, stoves, etc., should first be capped, so as to allow the stop cocks to be tested; then remove the caps and see if the cocks allow the gas to leak.

In case the mercury drops, a test for leak, by putting ether in the pump, or with soap water, will be made.

In no case shall a fire test be used in dwellings, offices, stores, etc. No cement of any kind shall be used for repairing faulty fittings or work; nor is the use of *blind gaskets* permissible.

When any attempt to hide leaks is made, the name of the fitter will be kept on record at this office, and future work done by him will not be approved without rigid examination.

In running pipes in buildings, no set rules can be given, except that pipes must in all cases, when possible, be so placed that they can be easily inspected; and that in case of accident any leaking gas may escape easily.

Cement wall carefully where service pipe enters the building, and use a large pipe for the main that runs through the cellar. Provide valves to shut off gas from all risers. In running pipe through flues, great care is necessary, and lead pipe for the bends should not be used.

Do not run pipes between floors or walls when any other method can be employed. Do not place cocks between floors and ceilings. Do not use any valves which require packing at the stem, in places where leaking gas may be dangerous. If pipes run outside of walls, provide a drip.

Allow plenty of air under the grates, so that the hearthstone may not get too hot. Set the back tile in grate so that the unburnt gases will be directed up the chimney, and not allowed to enter the room.

Admitting more air under the grate, so that it will percolate through or between the hot bats in grate, results in a cheerful, bright fire from bottom of grate to the top of the fittings, and also in front.

In fitting up a building, all gas fitters will be required to furnish the gas company, who are to supply the fuel, with a statement giving the number of fires fitted up, and also any additional fires that may be connected afterwards in the same building, so that a complete record may be had at this office. Blank forms for this purpose will be furnished by the different companies supplying natural gas.

It should be borne in mind that a leak of natural gas is not so perceptible as of artificial gas, on account of the very slight odor arising from it; and more care should be taken in piping a building for its use.

Fitters should also remember that accidents and explosions are likely to occur through defects in fittings and pipes; and as the introduction of natural gas is a benefit to the fitters, the community at large, and to the insurance companies, the fitters should do all in their power to make the use of natural gas as safe as possible; and they can materially aid in this by endeavoring to put in pipes and fittings in a perfect manner.

Very respectfully,

J. B. McFADDEN,
Secretary.

APPLICATIONS FOR GAS.

When application is made for gas supply, the following blank should be filled up and sent to the nearest station or office of the Company. An agent will call promptly, and will make an estimate of the cost of gas supply as well as expense of connection from the curb to inside the cellar wall. When the agent's estimate is accepted by the customer a contract will be prepared, and on its being signed a connection will be put in at once and a regulator set. When the plumber finishes his work, the Company's inspector will examine the pipes and test them to the standard (ten pounds) pressure. If the pipes are all right, a certificate will be issued to the Fire Marshal, who in turn will give a permit to the customer, which must also be approved by the insurance company having a risk on the building.

The following is the blank form of application :

TEAR THIS OUT AND FILL UP.

APPLICATION FOR NATURAL GAS FUEL.

Pittsburgh,.....188

PHILADELPHIA COMPANY,
935 Penn Avenue.

Name of Applicant.....

.....

No..... .....Street.

Gas to be used in the following places, viz. :

.....Steam Heater. .....Kitchen .....

.....Furnace. .....Laundry Stove.

.....Open Grates. .....

.....Heating Stoves. .....

REMARKS.

....

.....

.....

....

Referred to.....

Price quoted by.....

RULES AND REGULATIONS

FOR THE SUPPLY OF NATURAL GAS BY THE PHILADELPHIA COMPANY.

1. This Company will make the necessary connections with its gas main and carry same to the curb of pavement, but all other connections and appliances for the purpose of utilizing the gas from that point, shall be at the cost of the consumer, and shall be, as to character and arrangement, subject to the approval of the Company's inspector.

2. For controlling the pressure of gas admitted to the pipes from the main, this Company will provide, and keep in good repair, a Gas Regulator with automatic shut-off (that will be approved by the Board of Underwriters), upon the terms fixed in the contract, which shall, together with any pipe, services or fittings the Company may place on the premises of the consumer, be known as, and remain the property of, this Company, and any interference therewith, on the part of the consumer, or any gas fitter, is strictly prohibited.

3. The consumer shall use all due care to prevent any waste of gas. And that this Company may properly guard its interests, it shall at all reasonable times, by its authorized agent, (who will be provided with a certificate, signed by the Secretary of this Company,) have free access to the premises in which the gas is used, to determine if it is being carried, distributed and burned in a proper manner, and in accordance with these Rules and Regulations; and the Company reserves the right to measure the gas used, and to shut off the supply for any of the following reasons: 1st, for repairs; 2d, for want of supply; 3d, for non-payment of bill when due; 4th, for fraudulent representations in relation to consumption of gas.

4. In case the supply of gas should fail, whether from natural causes, bursting of pipes, or accident in any way, this Company shall not be liable for damage by reason of such failure, nor shall it be liable in any event for damage to person or property arising, accruing or resulting from the use of gas.

5. Consumers are not permitted to use the gas for illuminating purposes, or for any purpose, or in any place, other than is provided for in the contract, without having first obtained the written consent of this Company, and arranged to pay additional compensation therefor.

6. In case of deficiency of gas, or detection of leaks, notice of the fact should be given forthwith at the nearest office of the Company, that the defect may be remedied without delay.

7. Bills must be settled at the office of the Company, within the time specified in the contract, or the gas may be turned off without further notice.

8. Inspectors, agents, or any employe of this Company, are expressly forbidden to demand or accept any compensation for services rendered.

9. Contracts are not transferable. New occupants are required to make application in person at the office of the Company at the time they commence the use of gas, to avoid being liable for back dues for all gas supplied until such notice was given.

10. Any failure on the part of the consumer to comply with these Rules and Regulations shall annul this contract, and the Philadelphia Company may thereupon, without further notice, shut off the supply of gas and remove its property from the premises.

11. All words herein referring to the consumer, shall be taken to be of such number and gender as the character of the consumer may require.

3 0112 072908897

GAS AND THE INSURANCE COMPANIES.

The Board of Fire Underwriters, after inspection of premises, issues the following permit:

Parties receiving this Certificate are required to have a printed endorsement on their Insurance Policies.

THIS IS TO CERTIFY, That the Natural Gas Pipes on premises of.....
have been tested to a pressure of.....
pounds, and are in accordance with regulations adopted by the Board of Fire Underwriters.

No..... .....
Secretary.

Pittsburgh, ...188

The *Insurance World* of this city, which is the mouthpiece of the Insurance interests, in speaking of gas, says:

"Natural gas *per se* is not more dangerous from a fire underwriter's point of view than artificial gas; it is wholly a question of pressure. When first introduced in the streets of this city the gas was brought in under high pressure—in some instance over 100 pounds—and the result was leakages and explosions; but these dangers have since been averted by appliances for reducing the pressure and guarding against leaks, and it may be safely said that the fire hazard of the manufacturing risks of this city have been reduced by the introduction of this new fuel. * * *"